

Serial Number 09/548,910**PATENT****IBM Docket No. RAL9-00-0014****Amendments to the Claims:**

1. (previously presented) An apparatus for periodically moving information units from a plurality of sources to an output destination based on information stored about each of the plurality of sources, the apparatus comprising:

a first time-based calendar which handles some of the information units based on the information stored about the plurality of sources;

a second time-based calendar which handles other of the information units based on the information stored about the plurality of sources;

a third calendar which is time-independent which handles other of the information units based on information stored about the plurality of sources;

a fourth calendar which handles information units based on limiting peak burst rate, providing a scheduling delay when the peak burst rate exceeds a calculated value;

a timer which periodically generates a signal which moves a single information unit to the output destination, with the single information unit chosen based on stored rules and calendar search.

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2. (Currently Amended) A method of selecting during any processing cycle one processed information unit from a plurality of information units ready at that time for transmission from a network processor toward a data transmission network, the method comprising:

receiving priority information about each of the information units ready for processing;

placing pointers identifying queues with each information unit ready for transmission into at least one slot on one of several prioritized calendars based on the priority information associated with each information unit, wherein at least one of the calendars being time-based scheduling some of the information units based upon predefined bandwidth requirements and an other one at least two of the calendars being time independent scheduling others of the information units based upon non-predefined bandwidth requirement and according to round robin priority selection between the at least two time independent calendars;

selecting one of the queues to service at each time cycle based on a stored set of rules including location of slot storing the ~~printers~~ pointers identifying queues and selecting one of the information units from the selected queue according to an algorithm; and

sending the selected information unit to the network.

3. (Currently Amended) The apparatus of claim 1 wherein the single information unit chosen based on location on a selected calendar ~~whereat an indicia identifying a source providing said single information unit is placed.~~

4. (Currently Amended) The apparatus of claim 1 wherein at least one of the first time-based calendars, the second time-based calendar and the third time-based calendar

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each includes n related calendars, $n > 1$, with and each one of the n related calendars having m partitions, $m > 1$.

5. (previously presented) The apparatus of claim 4 wherein $n = 4$.
6. (previously presented) The apparatus of claim 5 wherein $m = 512$.
7. (previously presented) The apparatus of claim 4, wherein a scaling factor q separates pairs of the n calendars in each group of calendars so that values assigned to each of the partitions are different for each of the calendars in the same calendar group.
8. (previously presented) The apparatus of claim 7 where $q = 16$.
9. (Currently Amended) ~~The apparatus of claim 1 further including~~ An apparatus for periodically moving information units from a plurality of sources to an output destination based on information stored about each of the plurality of sources, the apparatus comprising:
 - a first time-based calendar which handles some of the information units based on the information stored about the plurality of sources;
 - a second time-based calendar which handles other of the information units based on the information stored about the plurality of sources;
 - a third calendar which is time-independent which handles other of the information units based on information stored about the plurality of sources;
 - a fourth calendar which handles information units based on limiting peak burst rate, providing a scheduling delay when the peak burst rate exceeds a calculated value;

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a timer which periodically generates a signal which moves a single information unit to the output destination, with the single information unit chosen based on stored rules and calendar search; and

at least one location associated with at least one of the time-based calendars, said one location maintaining at least one pointer identifying one of the plurality of sources.

10. (previously presented) An apparatus for indicating when an information unit is to be moved from one of a plurality of sources to an output destination comprising:

n calendars where $n > 1$, each calendar partitioned into m slots with $m > 1$ and a scaling factor q separating pairs of calendars so that slots on different calendars represent different bandwidth;

a register storing values representative of current time, said register having an output that advance between slots on at least one of the n calendars;

a current pointer associated with the at least one of the n calendars and having an output that indexes between slots of the at least one of the n calendars; and

an algorithm to select one of the n calendars which identify one of the sources from which the information unit is transmitted.

11. (previously presented) The apparatus of claim 10 further including a control signal that periodically increments the registers.

12. (previously presented) The apparatus of claim 11 wherein the control signal increments the current pointer to advance from one slot to the next.

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13. (previously presented) The apparatus of claim 10 further including at least one identification pointer placed at a selected slot of at least one of the n calendars and identifying at least one of the plurality of sources.

14. (previously presented) A method to select information units to be transmitted from a plurality of sources to a transmission network comprising:

- providing n calendars wherein $n > 1$ and each calendar having m slots $m > 1$ with slots in different calendars representing different bandwidth;
- queuing the information units in queues;
- placing indicia identifying queues with information units ready for transmission, at selected slots on selected ones of the n calendars, based upon priority information associated with each information unit;
- establishing a processing interval;
- searching each of the n calendars within the processing interval to detect a location at which an indicia is set to a state identifying a queue with information unit ready for transmission;
- selecting the queue associated with the set indicia only if one location is set; and
- sending selected information unit from the queue so selected to the network.

15. (previously presented) The method set forth in claim 14 wherein if set indicia are detected at slots in different ones of the n calendars selecting one of the slots based upon an algorithm.